

MONTANA FISH, WILDLIFE & PARKS

HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Swift Fox

Region: 6

Hunting District: Swift Fox portion of TD 6

Year: 2013

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

FWP proposes to increase the swift fox quota from 20 to 30. The swift fox season was first established in 2010 and has had an annual quota of 20.

All other aspects of the existing swift fox season would be maintained and includes:

Swift fox season coincides with furbearer season and runs from November 1 – March 1.

Per trapper limit of 3 swift fox.

Harvest monitored through 24-hour reporting using Mandatory Reporting Response Entry System, a pelt-tagging period with registration requirement, mandatory hide and skull presentation for tooth/biological sample collection, and 48-hour season closure notice.

The swift fox trapping boundary would be limited to those areas within TD 6 that are north of US Highway 2 and west of Rock Creek in Valley County. This provides a buffer zone between the swift fox trapping portion of TD 6 and the translocated swift fox on the Fort Peck Indian Reservation.

The proposed quota level is set to permit limited harvest while also allowing the swift fox population in Region 6 to serve as a source population for planned and potential future translocations. FWP will evaluate translocation requests and make decisions and proposals to the Commission based on habitat suitability of the receiving area and swift fox availability. Future quota recommendations will maintain translocation potential.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The objective is to increase swift fox harvest opportunity in concert with an increasing and expanding swift fox population in TD 6. The increase from 20 to 30 harvest fox should allow the swift fox season to remain open for the majority of the season to allow for sustainable harvest opportunity.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints, etc.**

The success will be measured by monitoring harvest through the mandatory check process. The increased amount of harvest data will provide valuable population trend indices in the absence of population monitoring surveys. Harvest metrics include trapper effort, catch rate, trapper success, harvest distribution information and other supplemental data will be used to monitor population trends, set regulations, and harvest quotas.

- 4. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

Montana does not have a management plan specific to swift fox. Rather, FWP utilizes the guidelines found in The Conservation Assessment and Conservation Strategy for Swift Fox in the United States. (Kahn et al. 1997). The management objectives found in this document are to: 1) maintain local self-sustaining populations that are geographically distributed throughout each state; and: 2) that populations occupy a minimum of 50 percent of the suitable habitat that is available. Both of these objectives have been attained in Montana. Swift fox have become

established as a self-sustaining population in northeastern Montana and are contiguous with the Canadian populations. In addition, a swift fox population has been established on the Fort Peck and Blackfeet Reservations and is expanding southward and eastward. Further, FWP and other survey information indicate that animals occur in southeastern Montana adjacent to northeastern Wyoming.

Harvest during the first three years of the swift fox season has increased each year and the quota of 20 was first reached in 2012 (Table 1).

Table 1. TD 6 Swift Fox Harvest

Year	Quota	# Harvested	Adults	Juveniles	Female	Male
2010	20	7	3	4	2	5
2011	20	16	5	7	6	10
2012	20	21	*	*	10	11

*Not available yet

The existing Montana population is very robust when modeled by Ryan Rauscher in 2010 using the program Vortex 9.7. The swift fox population model uses population parameters described by Moehrenschrager et.al. (2006) and the population size was adjusted to only the northeast Montana segment (Table 2). The model ran 500 iterations and predicted the probability of extinction in 100 years. It should be noted that this model assumed harvest quotas would not be adjusted within the 100 year time period. The first model imposed a harvest rate of 20 animals and assumed 50% of the harvest would be adults, an initial population of 500 animals and a carrying capacity of 1000 animals. This model produced a 0.01 probability of extinction. With an initial harvest rate of 20 animals, (10 of which are adults) and eliminating harvest if the population fell below a population estimate of 500 animals, the model produced a probability of extinction of 0.00.

When the harvest rate was increased to 40 adult animals and eliminating harvest when the population fell below the current estimate of 500 animals, the probability of extinction is 0.00. Retaining the same harvest rate and eliminating harvest when the population estimate fell below 400 animals still produced an extinction probability of 0.00. A variety of population model inputs were examined. All models consistently predicted a positive growth rate until carrying capacity is reached. Even when the current northeastern Montana population estimate was assumed to be overestimated by 50%, i.e. 250 animals, a modest harvest rate of 20 animals produced a probability of extinction of 0.00. Consequently, even if there is a significant error associated the estimated northeastern Montana population, the population is predicted to be robust if the swift fox population continues to have the same demographic parameters that have characterized the population over the last several years.

Table 2: VORTEX input values for swift fox PVA model for the northeast Montana swift fox population segment.

Number of iterations:	500
Number of years:	100
Extinction definition:	Only one sex remaining
Number of populations:	1 (based on connectivity information in Moehrenschrager and Moehrenschrager(2001, 2006)
Inbreeding depression:	No
Concordance between environmental variation in reproduction and survival:	No (No evidence that reproduction and survival are linked)
Number of catastrophes:	0
Age of first offspring:	1 year (both sexes)
Maximum age of reproduction:	9 years for females; 13 years for males
Maximum litter size:	8
Density-dependent reproduction:	No
Percent adult females breeding:	85%: as reported in Moehrenschrager et al. (2004)
Distribution of litter size:	Numbers of pups and relative frequencies based on 29 observed litters: - 1(6.8%); 2 (20.7%); 3

	(13.8%); 4 (31%); 5 (13.8%); 6 (3.4); 7 (6.9); 8 (3.4) (Moehrenschrager unpubl. data)
Mortality:	Density-dependent (No evidence of density-dependent mortality. However, to be conservative, density-dependence is used in the model.)
Annual Adult survival:	0.38 – 0.52
Juvenile survival:	0.5 – 0.63
Monopolization of breeding:	100%
Initial Population Size:	500 (only includes Montana population)
Carrying capacity (K):	1000 (Baseline carrying capacity was predicted to be twice as large as the initial population size as population continues to show positive growth rates).
Harvest:	Variable
Supplementation:	None

5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

Large tracts of native prairie habitat exists and are protected through federal and state ownership, private land conservation easements, landowner incentive programs, etc, and an increasing awareness and appreciation for the value of conserving prairie habitats. The decline in swift fox numbers during the 20th century was attributed to a high vulnerability to poison baits for coyote and wolf control, susceptibility to unregulated trapping, habitat loss, and increased competition from expanding fox and coyote populations. Several of the factors that lead to the decline in swift fox numbers no longer present a significant threat: poison baits are strictly regulated and used much less frequently, unregulated take has not been allowed since 1979, fox and coyote populations have stabilized relative to the early 1900's. Reducing or controlling coyote populations through harvest is an important component to management of an expanding swift fox population in the state, although overlap of the two species will result in some incidental capture of individual swift fox.

6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

FWP attended the District 6 Montana Trappers Association annual meeting in Saco on March 24, 2013, where furbearer seasons were discussed. MTA members in attendance and those not present but contacted were either in favor or neutral to an increase in the swift fox quota. Coyote trappers in attendance spoke to an increase in the swift fox population as evidenced by an increase in the number of coyote sets that are visited or disrupted by swift fox.

FWP met with Fort Peck tribal Fish and Game, where the quota increase was presented. Tribal officials had no concerns with the proposed quota increase.

Submitted by: Scott Thompson

Date:

Approved: _____
Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification: